



Sample gas cooler

EGK 1/2

Installation and Operation Instructions

Original instructions



- 3. Sampling Probe Box
 - 3-1 Tag-NO.(MNS CODE) FGD4: FAHRA01CQ101
FGD5: FBHRA01CQ101
 - 3-2 Dimensions 460 X 410 X 250 (H x W x D)
 - 3-3 Material Stainless Steel
 - 3-4 Weight Approx.20Kg
 - 3-5 Enclosure IP55
 - 3-6 Power supply 120V AC, 60Hz, 150W
 - 3-7 Filter $\Phi 35 \times 125$
 - 3-8 Design Temperature 90-160°C
 - 3-9 Painting Specification Stainless Steel without Painting

- 4 Probe
 - 4-1 Length 1280mm
 - 4-2 Material Stainless Steel 316L
 - 4-3 Flange ANSI#150 2" FF Flange
 - 4-4 Flow Rate MAX. 6l/min

- 5 Sampling line
 - 5-1 Power supply 120VAC,60Hz 40W/m
 - 5-2 Heating temperature 140°C
 - 5-3 Tube $\Phi 8$ and $\Phi 6$
 - 5-4 Insulation materials Glass Fiber
 - 5-5 Length 40m X 2 set
 - 5-6 Diameter $\Phi 38$ mm

- 6 Cooler
 - 6-1 Power supply 120V AC, 60Hz, 300W

- 6-2 Dimensions 390 X 300 X 400 (H x W x D)
- 6-3 Preheating time Max 15 minutes
- 6-4 Control temperature $5^{\circ}\text{C} \pm 1^{\circ}\text{C}$
- 6-5 Weight Approx. 15Kg
- 6-6 Installation Hanging

7 Sampling Probe Purge

- 7-1 Cleaning frequency Every six hours
- 7-2 Cleaning Time of duration Three minutes
- 7-3 Cleaning Controlled by CEMS- small PLC
- 7-4 The signal processing method during cleaning period U23 output signal remained

8 Process GAS Condition

Item	Unit	Quantity(FGD inlet)
Total flow(dry)	Nm ³ /h(dry)	678,431
Total flow(wet)	Nm ³ /h(wet)	769,720
Fact flow	Am ³ /h(wet)	1,252,800
Total quality flow	kg/h (wet)	996,800
Pressure	KPa	TBD
Temperature	°C	Max. 170
Composition :		
H ₂ O	vol%(wet)	11.86
O ₂	vol%(dry)	2.87
CO ₂	vol%(dry)	11.87
NOX(NO)	mg/Nm ³ (dry)	400 dry 3%O ₂
SO ₂	mg/Nm ³ (dry)	6,400 dry 3%O ₂
SO ₃	mg/Nm ³ (dry)	150 dry 3%O ₂
HCl	mg/Nm ³ (dry)	1
HF	mg/Nm ³ (dry)	0
DUST	mg/Nm ³ (dry)	50 dry 3%O ₂

9 Parts List

No.	piece	Name	Manufacture	Supplier	Remark	Parts code
1	2	Outside Cabinet	Rittal	Siemens	800(W) X 600(D) X 2100(H)mm	
2	2	Air Condition	Rittal	Siemens	AC 120V 60Hz	Air-Con
3	2	Heater	Rittal	Siemens	AC 120V 60Hz	Heater
4	2	Light	Rittal	Siemens	AC120V 60Hz	LT
5	2	ULTRAMAT 23 Analyzer	Siemens	Siemens	SO2: 0-1000-5000ppm	A1
6	2	Heated Filter Unit	SDL	Siemens	120V AC, 60Hz, 150W	
7	2	Sampling Tube	SDL	Siemens	1280mm	
8	2	CPU224	Siemens	Siemens	14DI 10DO	CPU
9	2	EM231	Siemens	Siemens	4AI	
10	2	EM232	Siemens	Siemens	2AO	
11	2	EM222	Siemens	Siemens	8DO	
12	2	Protecting Filter	Buhler	Siemens	material:PTFE,filter fineness:2µm	FI
13	2	Pump	KNF	Siemens	N86 120V 60Hz	DP1
14	2	Flowmeter	Krohne	Siemens	25-250L/H	FI1
15	8	Button Indicator	Schneider	Siemens	24V	H1~4
16	2	Platinum Resistance	Siemens	Siemens	PT100	PT100 BWG
17	2	Temperature Controller	Autonics	Siemens	TC4S-14R	TC1
18	2	Ball Valve	Swagelok	Siemens	F6	BV1
19	2	Golbe Valve	Burkert	Siemens	DC24V NO	SV1
20	2	3-way Ball Valve	EM	Siemens	6L0732.00	SXV1
21	2	PTFE Needle Valve	EM	Siemens	5L0101.00	NV1
22	2	Stainless Steel Needle Valve	Swagelok	Siemens	F6	NV2
23	2	3-way Solenoid Valve	Burkert	Siemens	CN63231 DC24V	BXV1
24	2	Security Filter	Siemens	Siemens	0.2µm	WF1
25	4	Peristaltic Pump	Buhler	Siemens	120V 60Hz	M11/M12
26	2	Cooler	Buhler	Siemens	EGK1/2 120V 60Hz	EGK
27	22	Switch	Siemens	Siemens	5SJ6	F1~F11
28	2	Humidity control element	Buhler	Siemens	ER-145/A	
29	2	Cylinder Gas	Saudi	Siemens	8L, The calibration gas provided in Saudi Arabian , according to the requirements by Saudi Arabian Environmental Protection Administration.	
30	2	Safety Filter	Siemens	Siemens	C79127-Z400-A1	AF1
31	2	Two-way Solenoid Valve	Burkert	Siemens	G1/2 24V8W FPM 2-16bar	SXV2
32	2	Gas Tank	SDL	Siemens	Size: 5 liters, corrosion-resistant	TK